

Title: A Model to Evaluate Vertical Handovers on JRRM

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Abstract: In a heterogeneous cellular networks environment, users behaviour and network deployment configuration parameters have an impact on the overall Quality of Service. This paper proposes a new and simple model that, on the one hand, explores the users behaviour impact on the network by having mobility, multi-service usage and traffic generation profiles as inputs, and on the other, enables the network setup configuration evaluation impact on the Joint Radio Resource Management (JRRM), assessing some basic JRRM performance indicators, like Vertical Handover (VHO) probabilities, average bit rates, and number of active users, among others. VHO plays an important role in fulfilling seamless users sessions transfer when mobile terminals cross different Radio Access Technologies (RATs) boundaries. Results show that high bit rate RATs suffer and generate more influence from/on other RATs, by producing additional signalling traffic to a JRRM entity. Results also show that the VHOs probability can range from 5 up to 65%, depending on RATs cluster radius and users mobility profile.

Author Keywords: Heterogeneous Networks; JRRM Analytical Model; Resource Management; Vertical Handover

KeyWords Plus: Performance analysis

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